United States Environmental Protection Agency	Office of Air Quality Planning and Standards Information Transfer and Program Integration Division Information Management Group Research Triangle Park, NC 27711

Air Quality System

Precision & Accuracy Data Transaction Generator

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AQSP&A Transaction Generator

Users' Guide

Version 2.1

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1. About AQSP&A

This "application" is a stand-alone PC tool to build Precision and Accuracy transactions for uploading P&A data into the Air Quality System (AQS). The intent of this tool is to provide you with a simple way to create the 2 AQS data input transactions used for uploading accuracy data (transaction type RA) and precision data (transaction type RP). The transactions are created in the "new" format with pipe delimiters.

The scope of this tool is identical to the Precision and Accuracy Reporting System (PARS) tools we have provided in the past. We have made this additional tool available because the older PARS software does not execute on some of the newer PC operating systems (e.g. Windows 2000).

AQSP&A is an Excel 2000 workbook. You must have Excel software to use AQSP&A. The minimum version of Excel required is Excel 97.

> **Note**: An Excel file is also called a Workbook. A workbook (or file) can include many worksheets. Each worksheet has a name tab. In the AQSP&A workbook, there are 7 worksheets, named Help, TransactionRA, TransactionRP, Valid Methods, Code Values, Audit Protocols, and Coding Manual.

We have created 10 workbooks, one for each USEPA Region. Each workbook contains reference tables for active criteria pollutant monitors for every reporting agency in the USEPA region. You need only one of the workbooks; the one appropriate to your USEPA Region. More information about this can be found in Chapter 2 of this guide.

To fulfill the intent of providing you with a simple way to create accuracy and precision transactions, we have included the following capabilities:

- Lists of values for data entry are provided whenever practical. The lists of values provided for data entry are taken from the reference worksheets, which have been loaded with AQS data. The lists of values are presented in drop down menus, and are available for most fields, including Method, Units, and Sampling Duration.

- Descriptions of codes and monitors are provided by "right-clicking" the field in question.

- The P & A data you enter into the worksheet is validated prior to creation of transactions. The use of valid monitors, methods, durations, units, various code values, and acceptable observation values are checked. Feedback is provided to you for correcting any errors found. **Note:** The existence of corresponding raw data values for collocated monitors is not checked, however.

- Help is provided for each field on each transaction by including the appropriate information from the AQS Data Coding Manual.

- The use of Excel is also considered to provide a user-friendly aspect to this application. Because this application is an Excel file, you can create multiple copies of the file, move it to different directories, and also use the many built-in capabilities provided by the Excel program.

2. Set up

Setting up this application consists of copying the appropriate file to your hard drive, and then running the **Set Up Screening Group** utility from the Help worksheet.

Copying the file

When using a CD to set up this application, you must open Windows Explorer to view the files on the CD. Ten similar files have been supplied on the CD, one for each USEPA Region. Choose the file for the Region in which your agency resides. For example, if you are an agency in Region 1, then you would copy the file named "AQSP&A RO1".

If you are downloading the application from the TTN, you only need to download the one file for the Region in which your agency resides (and the Users' Guide).

You must decide on a target drive and folder (directory) to copy the file into. As a default suggestion, you could create a folder named "AQSP&A" on drive C. Then copy the file from the CD (or download from the TTN) into this directory. Some operating systems will set the file attributes of the copied file to read-only if the file was copied from a CD. So you should check the file attributes of the file you copied, and deselect read-only if appropriate. Be sure to apply the property change to the file.

Enable Macros

After copying the file, start Excel and open the file. Because the file contains "macros", you must be sure that the security setting in Excel is set to let you run macros. If you do not get a prompt window to "Enable Macros" when the file is opening, then change the security setting in Excel.

To change the security setting in Excel, first close the AQSP&A file if open. Then, from the Excel menu, choose Tools / Macro / Security. There are 3 settings; Low, Medium, and High. . If security is set to "High", you will not be able to run macros. In this case, change the level to "Medium". With this setting, Excel will prompt you every time you open a file; asking whether you want to enable macros, or not. You can still choose to disable macros when opening other Excel files.

Once you have opened the file from Excel and "Enabled Macros", you will see the Help worksheet.

Setting Up a Screening Group

The Help worksheet contains a green button labeled "Set Up Screening Group". This button runs a macro that asks you for your screening group, and then deletes all extraneous reference data from the reference worksheets (Valid Methods and Code Values) in the workbook. This helps ensure that you build transactions only for monitors belonging to your screening group. You only need to run this utility one time.

Note about multiple screening groups

If you submit accuracy and precision data to AQS for monitors in more than one screening group, then you can set up additional AQSP&A files for each screening group that you use. The files must have different names, of course, or reside in different directories. Then run the Set Up Screening Group utility for each copy, and choose different screening groups.

3. Entering data

Creating data consists of entering values into the columns of two worksheets; TransactionRA or TransactionRP. For accuracy transactions (type RA), use the TransactionRA worksheet. For precision transactions (type RP), use the TransactionRP worksheet.

Each transaction worksheet has a fixed header area that contains the names of the fields in the order in which they appear in the transaction format for that transaction type. To create a transaction, populate a row with appropriate values in each column. If you want to create multiple transactions, populate multiple rows with the required data. Mandatory fields have black headings, optional fields have blue headings.

Drop down lists are available for most fields. For fields that have a set of allowable codes or values, drop down lists will appear in each cell containing the allowable choices. The left mouse button is used to select the appropriate value from the list. In all cases, warnings are given if values not on the list are typed in; however you can proceed with those values. But if you generate a transaction with non-valid values, you may receive an error when attempting to load the transaction into AQS.

In cases where values are dependent upon other values, such as duration, units, and method, the drop down list of values contain only the appropriate choices for the specific monitor. One exception to this is that all methods for particulate monitors are presented as available choices when populating the method field, even though only a subset of the monitor's method codes are valid for flow audits.

To populate the monitor id fields, you can type the appropriate values into the monitor id columns (State – County – Site ID – Parameter – POC). If you enter monitor id data in this way, you should validate the data by using the lookup feature (right-clicking) to be sure you have a valid monitor.

Another way to populate the monitor id fields is to use the "Look Up Monitor" button on the Excel menu. To add a monitor in this way, first select (left click) a cell in a blank row under one of the monitor id columns (State – County – Site ID – Parameter – POC). Then click the "Look Up Monitor" button from the Excel menu. A procedure will run that asks you to first select a county code. When you select the county, a list of monitors for that county is displayed in the dialogue window. You can then click on a monitor, and the monitor id will be filled in on the worksheet.

4. Using Lookups

In addition to drop down list of values, look ups are available for validating monitors and for displaying code descriptions. Look ups are performed by using the right mouse button.

After entering data, you can right-click the values for duration, units, or method, see a description of the code value. For example, right clicking on a units code of "001" will display a message box with "UG/CU Meter (25C)".

If you type values for the monitor id fields directly into the spreadsheet, you can check the validity of the monitor id by right clicking any one of the monitor id fields you just populated. A message window will be displayed informing you whether or not the monitor exists on the reference worksheet (Valid Methods). This is an important validation step. Be sure to check that your monitors are valid prior to generating transactions. The validation routines that run before transaction generation do not check the monitor ids.

> Note about using the mouse
>
> Because the right mouse button is used for look ups on the two transaction worksheets, the default right-click function menu will not appear. To perform those functions (e.g. cut/copy/paste), you will have to use the menu at the top of the worksheet.
>
> Important Note: If you use cut/copy/paste, always use paste special and paste only the values to prevent overwriting the specific cell validation formulas.

For more information about validation, see the Help worksheet in AQSP&A.

5. Adding a new monitor or method to reference worksheets

You may need to report on a monitor, or use a method, that is not included in the reference worksheets. To provide for this possibility, a menu button labeled "Register New Monitor / Method" is provided. This procedure will present a form requiring you to enter the monitor, method, duration, and units for a new entry. After filling in the form, the appropriate reference worksheets are updated with the new monitor or method, and from that point on the new values will be available in the drop down lists of values and the look ups in the transaction worksheets.

You may choose to use this button rather than reloading the reference worksheets from AQS when the reference worksheets start to get "out of sync" with AQS. At present, Discoverer retrievals are used to populate the reference worksheets, and you should contact IMG if you want an updated set of reference worksheets.

6. Generating a transaction file

The Generate Text File of Transactions button is used to create the text file of transactions. Select one or more rows for generating transactions, and then press the button. Please note that when selecting rows to create input transactions, you do not have to be precise regarding which columns you have selected. All of the appropriate columns will be used by the transaction generation procedure. The procedure will reselect all of the columns in those rows.

You will then be prompted for the path and filename for saving the text file. To enable your PC to open the file in the application you normally use for text editing, you may want to add the appropriate file extension to the name (e.g. .txt).

Edit checks are also performed for mandatory fields, values within ranges, max values, and percent differences. For certain fields, the errors are highlighted with red text, and focus is returned to the field in error. Message boxes are used to inform you of the condition generating the error. Because the last step in the procedure is to generate the text file, you will not have files created until all of the fields in the selected rows have passed the edits. After successful text file creation, the rows that had been selected are set to a gray background as a reminder to you.

Note: When generating a text file of transactions, the monitor is not validated again, so be sure that the monitor is valid when you create it.

Separate files must be generated for each transaction type. You can append them together later after they have been created, but this application will not generate both transaction types in one file.

You may want to develop a file naming convention, and use certain directories, to stay organized and provide some audit trail capabilities.

7. Tips for using Excel

Various tips in no order.

- You can hide reference sheets, and unhide them as desired. The coding manual worksheet must not be hidden if you want to access it via right clicking the field names.
- You should always use paste – special when copying and pasting. Choose Paste Values only; this will keep the formatting and validation in place for the selected cells.
- Deleting rows on the transaction spreadsheets is ok. The data validations are still in place.
- You can use Excel filters and sorting if helpful.
- The default "right-click" menu of commands is not active on the worksheets (for cut, copy, paste, insert, delete, clear, format, etc.), because the right click event is used for providing lookups. You can still perform these functions by using the Excel menu or shortcut keys.
- If you do not use the "Set Up Screening Group" Utility, all of the active criteria monitors in the USEPA Region will remain on the reference worksheets. You can use the application this way, but you must remember which monitors are appropriate for the screening group you will use to submit data input transactions.
- Excel 97 does not support one of the Visual Basic methods used in the Set Up Screening Group procedure. You will get an error in this case. Call IMG and we can provide you with a copy for your screening group.

8. Help

About Application Help
Application Help is included as a worksheet. The help menu item and F1 key will provide Excel help only.

About Reports
No reports are included in this application at this time. We are looking into report capabilities for the next release. At present, if you need reports, you should use the AQS reports, where your data resides.

Data questions

Right click the column headings on the TransactionRA and TransactionRP worksheets to see the coding manual information for that field. You can also get a copy of the data input formats from IMG's AQS website. (http://www.epa.gov/ttn/airs/airsaqs/index.htm) Look under Manuals and Guides for Input Transaction Formats. You can see the Accuracy and Precision Transaction Formats by right-clicking the transaction type column heading.

Contacts:

Please call IMG if you have questions or comments. Our contacts are:

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